College of Lake County
Liberal Arts Division
Department of Philosophy

Logic

Course Code: PHI 122 – PHI 002
Semester: Spring 2018
Professor: Charles Urban
E-mail: curban@clcillinois.edu
Phone Number: (479) 595-6575
Class Times and Locations: TH 1:00pm – 2:15pn in A113

Course Description:

This course is an introduction to logic. We will begin by thoroughly understanding some fundamental concepts of the science of logic. For example, we will examine the concepts of argumentation, deduction, validity, soundness, induction, cogency, etc.

We will then look at the foundations of deductive logic. The science of deductive logic begins with Aristotle. We will explore the details of what is known as Aristotelian or term logic. Along the way we will incorporate the use of Venn diagrams as a means to literally seeing whether a syllogism or argument is valid or invalid.

Following this, we will study what is sometimes known as the New Logic. That is, we will study what is known as sentential logic. This is the logic of complete sentences.

Finally, we will look at what is known as monadic predicate logic. Monadic predicate logic is a combination of sentential logic and term logic. Monadic predicate logic culminates with what is known as first-order predicate logic with identity (and then meta-mathematics).

Course Objectives:

By the end of the semester, the student will be able to:

1. Identity and analyze the essential elements of deductive arguments (and inductive arguments and/or explanations).
2. Assess the validity of deductive arguments from Aristotelian or term logic.
3. Construct proofs of validity in sentential logic, and determine the validity or invalidity of arguments from sentential logic via “truth-tables.”
4. Construct more complex proofs in some of the predicate calculus, and develop techniques for demonstrating the invalidity of some arguments from predicate logic.

Learning Outcomes: The course enhances student abilities in the following general education areas:

Analytical Skills:

Students will develop the critical thinking skills necessary to analyze and evaluate both philosophical and non-philosophical arguments.

Assessments: Attendance, Participation and Exams

Communication Skills:

Students will acquire some of the conceptual and linguistic skills necessary to successfully communicate abstract logical ideas to a wide audience.

Assessments: Attendance and Participation

Global and Cultural Perspectives:

Students will appreciate the role which various logicians have had in molding the culture in which they live and in fashioning other cultures.

Assessments: Attendance, Participation and Exams

College Policies: Academic Honesty and FERPA

Cheating on tests, exams, or assignments will not be tolerated. A student who cheats or plagiarizes robs himself/herself of a valuable learning experience and violates the intellectual property rights of others. For these reasons, any student caught cheating, plagiarizing, etc., will be dealt with in accordance with the campus policy on maintaining academic integrity.

Required Texts:

A Concise Introduction to Logic by Patrick Hurley, 12th ed.

Course Outline:

Unit 1: Chapters 1 {The Bare Essentials of Deductive Logic}
Unit 2: Chapters 4-5 {Term Logic}
Unit 3: Chapter 6 {The Semantics of Sentential logic}
Unit 4: Chapter 7 {The Syntax of Sentential logic}
Unit 5: Chapter 8 {Monadic Predicate Logic}

Required Assignments:

There will be four in class exams. The tests will cover term logic, the semantics of propositional logic, the syntax of propositional logic and some chief features of predicate logic. For each test there will be a review session. Each exam is worth one hundred points, amounting to four hundred points by the end of the semester. At the end of the semester I will add up you points and divide by four.

Attendance and Participation:

You are expected to attend and engage in thoughtful discussion.

Grading Scale:

A = 90-100
B = 80-89
C = 70-79
D = 60-69
F = 59 and below

Students with Disabilities:

Your success in this class is important to me. If you have a disability (learning, physical, psychological or other) and may require some accommodation or modification in procedures, class activity, instruction, requirements, etc., please present documentation from Students with Disabilities.

Students with Disabilities is located in L112 at the Grayslake campus.
Phone (847) 543-2055